

Neuropathological diagnosis of tumour and bridge card game. Some personal remarks and considerations (Letter to the Editor)

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The process of making neuropathological diagnosis based on a tissue sample taken by a neurosurgeon may be envisaged as a kind of “bidding” resembling very much the one in the bridge card game. What makes both seemingly incomparable processes in fact conceptually very much close to each other? I will try to explain but first, though bridge is rather a popular game, I would like to present just the basic features and rules of the game in a simplified way to make my point and this text comprehensible to those that do not know the game. Bridge is the card game where two pairs of players are competing (each pair is a team). Two members of each pair sit at opposite sides of a square table. To win the game, the pair has to collect a predefined number of points (100). The first phase of the game after each new deal of cards is called “bidding”. During bidding, which is a form of an auction, the players, seeing only the cards of their own, in a formalized way of symbolic communication (so called a bidding system) try to achieve the best possible (optimal) “bid” in relation to the value (or “power”) of the cards they have received in a particular deal. The final “bid” (‘the contract’) that is the result of bidding, denotes the number of tricks a given pair of players hopes to win. The next phase is a play the outcome of which clears whether the bid was truly optimal, or in other words, whether the number of tricks matches the level of the contract achieved in the bidding phase.

I hope that this somewhat oversimplified description of the bridge card game will suffice to understand my thesis that bridge and neuropathological diagnosis of tumour have lots in common if one makes an assumption that making the neuropathological diagnosis is a form of a bidding and the following course of disease is a kind of “play” that may prove or (sometimes unfortunately) disprove our

“bid”, i.e. the diagnosis. It turns out that analogies between the formal conditions and rules of reasoning and the conduct in both so incomparable activities as a card game and the tumour diagnosing are surprisingly significant.

Firstly: Like in bridge, the neuropathologist “plays in a pair”. It is first of all a pair with a neurosurgeon. In this pair (also like in bridge) each of them does not see each other’s cards. In the case of a neurosurgeon “the value of the cards” or more appropriately (according to the bridge jargon) “of a hand” is the operation field and everything that is the result of direct “in situ” inspection and also the result of other examinations (including the symptoms and history of disease, neuroimaging, biochemical data etc). “The hand” of the neuropathologist in turn is the macroscopical and first of all microscopical picture of a sample. In some cases, “the value” or “power” of a “hand” of the neuropathologist is so strong (when histology yields unequivocal characteristic features of a particular type of tumour) that as if “the level of the contract” (the diagnosis) is practically obvious even without any knowledge of the partner’s “hand”. It is though (like in bridge) rather a rare situation and a state-of-art “bidding” (mutual exchange of information between the neurosurgeon and the neuropathologist) is necessary to achieve “a higher contract” i.e. the more precise diagnosis.

Secondly: Also like in bridge, a communication between the neurosurgeon and the neuropathologist is usually not direct and straightforward (unfortunately) but by the use of quite a “conventional” exchange of notes. On the contrary, the physical distance between them is usually much longer than in the real bridge game and instead of a nice “green table” they are separated sometimes by many walls and sometimes they are even many kilometres apart. One may say also that a kind of

“a common language” (a name of the one of several bidding “conventions” in bridge) is a must in relations between the neurosurgeon and the neuropathologist. “Conventional” and laconic communication between them may lead to disastrous misunderstandings...

Thirdly: Again like in bridge, the neuropathologist and the neurosurgeon have to try to combine the value of their both “hands” in the aim to reach the diagnosis as precise as possible which results in optimal decisions as for the treatment. The problem is that very frequently, the neuropathologist receives much less important information on the “power of the neurosurgeon’s hand” (when, for example, a lot of crucial information about the precise localization, relation of the tumour to particular anatomical structures, clinical symptoms and history of the ailment, to name only a few, are missing). The result is that it is much more difficult to achieve the “optimal contract” (the proper diagnosis).

Fourthly: One may say that the pair neurosurgeon-neuropathologist plays against an extremely vicious “pair” of enemies. Let’s try to personificate and name them. It is first of all “Dr Death” playing in pair with other “doctors” or “advisors” like “Dr Routine”, “Dr Lazy”, “Dr Neglect”, “Dr Tiresome”, “Dr Hasty”, “Dr Hoity-Toity”, “Dr Botcher”, “Dr Wiseacre”, “Dr Bighead” and many others malicious “doctors” who in fact may exist just inside us...

Fifthly: The precision of a diagnosis may be compared to the level of contract in bridge which is the result of bidding. Say, the diagnosis of “glioma WHO grade III” may be an equivalent of a sort of “3 no trump” (3NT) i.e. the lowest but usually satisfactory contract “making a game” because it is worth 100 points with the least number of tricks that have to be won. In case of a tumour, such a diagnosis (glioma grade III), though not very precise, notwithstanding enables proper and effective further treatment and decision-making may be also acceptable. Of course, in bridge we would prefer a higher contract, especially with “slam bonus”. For example, instead of “3-no-trumps”, 6 or 7 (“grand slam”) in any suit or NT is much better. Every neuropathologist knows that the material and the information at our disposal does not always enable the “bonus” diagnosis (a high contract with bonus points) especially in cases of a pathological rarity where the exact and true diagnosis is really something like a “slam in spades”. Unfortunately, there are still worse situations when “the cards” do not allow any bid that “makes the game”, i.e. a specific and definite diagnosis. Even so, we try to bid: “the best possible contract” which means any diagnosis that at

least excludes something or gives some indications for further examinations and management. In bridge it is something like, say, contract at the level of 2 or 3 in diamonds or in any other suit. It does not “make the game” (it is worth less than 100 points) but at least proceeds toward its completion.

Sixthly: In spite of the optimal contract (i.e. proper diagnosis) the total result of the game (in other words, the result of the treatment) depends on many never fully known or predictable factors which (in bridge) are a precise distribution of cards and the way the rivals play. In a real “play against the death” the result as we well know depends also on many not always controlled and predictable factors.

Seventhly: As it is in bridge, the worst that may happen in the process of diagnosing of a tumour is “a slip-up” (so called “undertrick” in bridge) which we dislike most and by all means we would like and have to avoid...

There are still more analogies. For example, the way of bidding and the way of making and expressing the diagnosis depends to some degree on a “temperament” of correspondingly a card player and a neuropathologist but in both cases “the courage” and “aggressiveness” (in bidding and in making the diagnosis) should be under control of reason and experience. Of course, every analogy has some limits beyond which it becomes either useless or just ludicrous. I do hope I have not exceeded them.

This “bridge-neuropathology” analogy may be regarded as a mere kind of intellectual pastime but I think it may be of some practical value because it may help to realize more vividly the conditions and limitations of our involvement in the struggle for the true diagnosis and hence for optimal and effective treatment of the patient. It emphasizes and illustratively explains the profound role of mutual understanding between the neuropathologist and the neurosurgeon and necessity for a close cooperation between them. It may also (hopefully) help to avoid possible dangers very easily caused by the aforementioned “malicious doctors” who are always ready to act in every of us.

PS. Surely, everything that was written about the pair of “players” formed by the neuropathologist and the neurosurgeon can be applied to the pair of just the pathologist and the surgeon (in other words, a very similar pair of medical professions but without the “neuro” prefix).